



# **DigCompConsumers: The Digital Competence Framework for Consumers**

Final report

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**EUROPEAN COMMISSION**

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## Foreword

The European Commission led by President Jean-Claude Juncker has set out, as one of its main goals, to create a Digital Single Market where citizens and businesses can seamlessly and fairly access online goods and services, whatever their nationality, and wherever they live.

Consumers are at the heart of making this Digital Single Market work. The Digital Single Market Strategy will simplify consumer rules for online purchases, and make data protection, copyright and telecom rules fit for the digital age. But better access for consumers to digital goods and services across Europe is not achieved through legislative changes alone. It also requires boosting digital skills and learning.

In the "New Skills Agenda for Europe", the Commission has therefore committed itself to supporting national efforts and playing a role in enhancing digital skills, and enabling digital skills learning.

This Digital Competence Framework for Consumers is based on the European Digital Competence Framework for Citizens (DigComp), a common reference framework of what it means to be a digitally-savvy citizen.

DigComp for Consumers aims to define the competence consumers need to function actively, safely and assertively in the digital marketplace. Consumers will be in a better position to benefit from open digital markets if they acquire new knowledge, develop and practice new skills, and adopt a critical and balanced attitude to the digital world.

DigComp for Consumers is a joint research project of the Commission's Directorate General for Justice and Consumers and the Joint Research Centre (JRC). It is based on consultation with, and active input from, a wide range of experts and stakeholders. I would like to thank its authors, and all those who contributed their insights and energy.

I hope DigComp for Consumers will become a reference for the development and strategic planning of digital consumer competence initiatives, at both European and Member State levels.

I trust it will help and enable public authorities, consumer associations, teachers and teacher training institutions, and also private actors, to improve their guidance for teaching digital consumer skills to young and old.

Tiina Astola  
Director-General  
Directorate General for Justice and Consumers

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# 1 Introduction

## 1.1. Background

This report presents the final findings of the DigCompConsumers project and illustrates a reference framework for digital consumer competence.

The DigCompConsumers framework is a joint action of the Directorate General for Justice and Consumers and the Joint Research Centre (JRC), the Commission's science and knowledge service.

The report presents the consumer digital competence framework. It proposes three proficiency levels for each competence as a simple way to show a progression in proficiency and discusses the possible uses of the framework at national and international level.

The work is carried out to achieve the goals set out by the European Commission in its two recent Communications of "A New Skills Agenda for Europe - Working together to strengthen human capital, employability and competitiveness" (European Commission, 2016a) and "A Digital Single Market Strategy for Europe" (European Commission, 2015a). Both underline the importance of boosting digital skills and learning so that citizens can seize the opportunities of the digital society and economy.

This work also aims to contribute to the implementation of the relevant part of the OECD's revised Recommendation on Consumer Protection in e-commerce, in particular: "Governments and stakeholders should work together to improve consumers' digital competence through education and awareness programmes aimed at providing them with relevant knowledge and skills to access and use digital technology to participate in e-commerce." (OECD 2016, p.18).

## 1.2. The need for a Digital competence framework for consumers

We live in a hyper-connected world. With a penetration rate of 97% in 2015 (ITU 2015), the number of mobile phone subscriptions is approaching the number of people on earth. In 2015, 83% of households in the European Union's 28 member states (EU 28) had internet access (Eurostat 2015). This reliance and increased use of technologies for everyday activities has an effect on several aspects of citizen's lives, including their choices as consumers.

The complexity and multiplicity of digital marketplaces provide a plethora of opportunities and risks for consumers. Given the fast speed of change, consumer knowledge, skills and attitudes need regular updating or risk being out of step with the increasing sophistication of digital marketing practices.

Today consumers acquire "free" goods and services in exchange for their personal data and data transfers pose new privacy and security risks; digital content products and services raise questions about usage restrictions; unsafe products are offered online across borders, and online platforms and peer-to-peer marketplaces blur distinctions between traders and consumers and challenge legislative frameworks. According to the latest OECD Digital Economy Outlook (OECD 2015), governments have identified privacy as the third out of 31 possible priority areas of the digital economy. The growing use of mobile devices for e-commerce brings a number of technical challenges to making information disclosures effective (e.g. on small screens) and can constrain record keeping by consumers (OECD 2016).

The opportunities offered in the digital marketplace are often paired with risks. An example can be seen in behavioural targeting based on profiling, a process whereby assumptions are made about individuals based on automated processing of data which has been collected about them. Profiling is not a new practice, but it has grown exponentially and become more effective and intrusive with the advent of 'big data', a

term used to describe the application of analytical techniques to search, aggregate and cross-reference large data sets. The data sets can include for example location data, Twitter feeds, Google searches or various private data-bases which when put together can produce a detailed picture of an individual's life.

This changing landscape requires a new set of competences that consumers need to engage in the online marketplace, to make informed choices, to increase their welfare, to enable them to weigh the benefits against the risks. Competent online consumers will be empowered and confident consumers, and as such contribute to the good functioning of (digital) markets in general and the Digital Single Market in particular.

This framework covers core consumer protection issues in electronic commerce, such as fair and transparent business and advertising practices; information about businesses, goods and services, and transactions; dispute resolution and redress mechanisms and payment protection. In addition, it also addresses issues of paying with data and data privacy/security, digital content issues, and peer-to-peer platform participation.

The core audience the framework is addressed to is of a professional nature, such as educational professionals, consumer education experts, consumer policy researchers, stakeholders such as consumer associations, and consumer policy makers.

### 1.3. Working definition of consumers' digital competence

This framework focuses exclusively on those aspects that are relevant in the context of consumers' competences in digital environments. General digital competences that consumers as users of technologies will have to acquire as a pre-requisite to be functional in a digital environment are described in the "European digital competence framework for citizens" (DigComp)<sup>1</sup> and out of the scope of this framework. Similarly, general consumer competences (e.g. Nordic Council of Ministers 2009, NECE 2010) that are not specific to the digital world are not included here either.

Consumer digital competence is defined as the competence consumers need to function actively, safely and assertively in the digital marketplace. This definition builds on the previous work done on consumers' competence and adapts it to digital environments.

Digital consumers' competences as described in this framework combine knowledge, skills, and attitudes (thus including values, habits, and abilities). Competences are conceptualized in line with the Recommendation of Key competences for lifelong learning (European Parliament and the Council 2006), which defines competence as the sum of knowledge, skills, and attitudes.

The existing literature about consumers in the digital market tends to focus on the risks of fraud and deception that consumers are faced with in online environments. While this is of primary importance in the development of consumers' competences, the framework focuses also on developing proactive competences that help consumers take advantage of the opportunities offered by the digital marketplace.

Educating consumers is seen as a means to empower consumers through the development of knowledge, skills, and attitudes that help them make informed decisions. Therefore, the aims of this framework are:

- To enhance consumers' confidence in purchasing and selling in the digital environment;
- To allow consumers to play an active and assertive role in the digital marketplace.

In particular, the objectives are to help consumers:

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<sup>1</sup> <https://ec.europa.eu/jrc/en/digcomp/digital-competence-framework>

- make informed choices in the digital marketplace;
- operate safely online and avoid falling victim to fraudulent or deceptive online marketing practices;
- understand digital marketing and advertising practices;
- manage online financial operations;
- understand the risks and advantages of digital data collection.

With these objectives in mind, the framework is intended as a conceptual and reference model and will need to be adapted to specific uses in the implementation phase. The framework aims to be open to cultural diversity and the examples of knowledge, skills, and attitudes that are given for each competence do not intend to be exhaustive. Examples aim to provide guidance of what is meant by that specific competence in a more detailed way. They are therefore to be used as a source of inspiration for local adaptation, or for adaptation to a specific target group or purpose.

A competence framework for digital consumers does not and cannot replace regulations and legislation that protect consumers, as both aspects - enhancing the digital competences of consumers and legislating the digital marketplace - must go hand in hand in providing a safe purchasing and selling experience for all.

#### 1.4. Methodology for the creation of the DigCompConsumers framework

In order to develop the framework, several steps were taken. First of all, DigCompConsumers is based on the European digital competence framework for citizens (DigComp),<sup>2</sup> of which the DigCompConsumers is a derivative framework. The methodology for building the framework thus follows the principles of DigComp: a modular structure with different dimensions (namely: areas; competences; competence descriptors); examples of knowledge, skills, and attitudes; and proficiency levels. DigCompConsumer is nevertheless a standalone framework and can be used independently from DigComp.

The feasibility of developing a Digital Competence Framework for Consumers (DigCompConsumers) was first discussed at the "EU Consumer Summit" in April 2014. At that occasion, consumer policy stakeholder representatives discussed digital literacy needs for online consumers, and if and how to adapt the Digital Competences Framework for Citizens (DigComp) to the consumer context.

In follow-up, a joint research project was set up, consisting of two parts. The first part was a preparatory study to identify emerging issues and potential detriments in the digital consumer context, as well as best practices regarding digital competence in consumer education, as a basis for the DigCompConsumers framework (Fielder et al, 2016).

The second part was to develop the DigCompConsumer framework itself, undertaken by the authors of this report with support from DG JRC and DG JUST. The initial outline was discussed at an expert workshop in December 2015. The outcome was validated through online consultations and a second expert workshop in April 2016, which also discussed the possible use cases of the framework and ideas about proficiency levels. In April and May 2016, online consultations were conducted to gather further comments and input from experts. In June 2016, experts reviewed the proposed proficiency levels, providing feedback and input.

The framework itself is therefore the result of a joint effort. It was developed, reviewed and validated with the help of a selected group of digital and consumer education experts from EU, OECD and Member State level, including national consumer authorities (FI, EE,

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<sup>2</sup> <https://ec.europa.eu/jrc/en/digcomp/digital-competence-framework>

AT, SE), consumer research institutes and academics (NL, F, NO), consumer associations (DE, EU) and others.

It is important to note that the framework, and in particular its examples, will require review and updating, as new trends and challenges for consumers emerge in today's dynamic digital marketplace.

### 1.5. Structure of the report

This report presents the results of the DigCompConsumers study.

Chapter 2 presents each of the 14 competences that were identified in a tabular format including: a title, a short definition of the competence, and examples of the knowledge, skills, and attitudes related to competence.

Chapter 3 proposes descriptors for three proficiency levels within each competence. This is one of various possible ways to define steps of progression in proficiency that consumers can make to function in digital markets.

Chapter 4 discusses possible uses of the framework at national and international level, for policy formulation and support, instructional planning for education, training and employment, and assessment and certification, as well as different possibility for developing proficiency levels as an alternative to the proposed one.

Chapter 5 describes possible next steps for dissemination, implementation monitoring and further development.

The report further includes a glossary (Annex 1); the list of participants to the workshops (Annex 2) and a list of references.

## 2 DigCompConsumers Framework

The framework intends to be descriptive, not prescriptive. This means that the framework is built to describe what competences are needed by consumers in the digital marketplace, without imposing norms for consumers' behaviour. It is neutral, it is – or at least aims to be – not culturally biased or exclusive. As such it can subsequently be tailored to specific uses and target groups.

The framework follows the consumer logic and is divided into three areas (or phases): pre-purchase, purchase and post-purchase.

Area		Competences
1	Pre-purchase	1.1 Browsing, searching and filtering information on goods and services
		1.2 Evaluating and comparing information on goods and services
		1.3 Recognising and evaluating commercial communication and advertisement
		1.4 Managing digital identity and profile in the digital marketplace
		1.5 Considering responsible and sustainable consumption in digital markets
2	Purchase	2.1 Interacting in the digital marketplace to buy and sell
		2.2 Participating in collaborative economy platforms
		2.3 Managing payments and finances through digital means
		2.4 Understanding copyrights, licences, and contracts of digital goods and services
		2.5 Managing personal data and privacy
		2.6 Protecting health and safety
3	Post-purchase	3.1 Sharing information with other consumers in the digital marketplace
		3.2 Asserting consumer rights in the digital marketplace
		3.3 Identifying digital consumer competence gaps and limits

### 2.1. Mapping between DigComp and DigCompConsumers

The table below shows how the competences defined in the DigCompConsumers framework are underpinned by the European digital competence framework for citizens (DigComp). The DigCompConsumers framework is however an independent and stand-alone tool.

DigComp		DigCompConsumers
1.1	Browsing, searching, and filtering information	Browsing, searching and filtering information on goods and services
1.2	Evaluating information and data	Evaluating and comparing information on goods and services
		Recognising and evaluating commercial communication and advertisement
1.3	Storing and retrieving information and data	
2.1	Interacting through digital technologies	Interacting in the digital marketplace to buy and sell
2.2	Sharing information and content through digital technologies	Sharing information with other consumers in the digital marketplace
		Participating in collaborative economy platforms
2.3	Engaging in citizenship through	Asserting consumers' rights in the digital

	digital technologies	marketplace
		Managing payments and finances through digital means
2.4	Collaborating through digital technologies	
2.5	Netiquette	
2.6	Managing digital identity	Managing digital identity and profile in the digital marketplace
3.1	Developing content	
3.2	Integrating and re-elaborating content	
3.3	Copyright and licences	Understanding copyrights, licences, and contracts of digital goods and services
3.4	Programming	
4.1	Protecting devices	
4.2	Protecting personal data and privacy	Protecting personal data and privacy
4.3	Protecting health	Protecting health and safety
4.4	Protecting the environment	Considering responsible and sustainable consumption in digital markets
5.1	Solving technical problems	
5.2	Identifying needs and technological responses	
5.3	Creatively using digital technologies	
5.4	Identifying digital competence gaps	Identifying digital consumer competence gaps and limits

## 2.2. Competences, descriptors, and examples

This section provides, in a tabular view, the detailed Digital Competence for Consumers framework, which is the core element of this report. For each area we propose a description of the area; and a list of competences that belong to that area. For every competence, we have detailed a description of the competence and a non-exhaustive list of examples of the knowledge, skills, and attitudes that can illustrate the competence.

While we realise that there are some possible overlaps in examples between competences or areas, care has been taken to reduce these overlaps to a minimum.

The examples include some of the main notions of EU digital consumer rights, but do not aim to reflect all such rights, nor to reflect such rights in detail, or as they apply in individual countries. They also do not take any future legislation into account. The examples aim to reflect current common practices and habits that consumers have developed in digital marketplaces.

As digital markets evolve, and as the applicable regulatory framework changes, both the examples and the competences themselves will need to be updated.

### 2.2.1. Area one: Pre-Purchase

Actions taken before purchasing goods and services in the digital marketplace focus on information search, comparing information, evaluation of alternatives, dealing with commercial communication, managing digital identity, and making responsible and sustainable consumption choices.

1.1 Browsing, searching and filtering information on goods and services

1.2 Evaluating and comparing information on goods and services

1.3 Recognising and evaluating commercial communication and advertisement

1.4 Managing digital identity and profile in the digital marketplace

1.5 Considering responsible and sustainable consumption in digital markets

### 1.1 Browsing, searching and filtering information on goods and services

To search for and access information related to goods and services using digital tools. To identify and select the information needed regarding goods, services, and transactions options.

<i>Knowledge examples</i>	<p>Recognising that search engines are not neutral, and that search results and ranking of search results of goods and services are influenced by advertising and marketing</p> <p>Being aware that different search engines may give different search results for goods and services</p> <p>Knowing that the internet gives access to online shops across the world, and that it may be worthwhile to check offers in other countries/languages</p> <p>Knowing about several digital tools (e.g. portals and apps) that facilitate online shopping</p> <p>Realising that many companies, shops and government agencies have e-commerce and e-government services available online</p> <p>Being able to name sites that sell goods at reduced prices</p>
<i>Skills examples</i>	<p>Using various different search engines, changing to a different search engine to obtain better results</p> <p>Filtering the search results to adjust searches</p> <p>Refining information searches and selecting specific words in order to find the desired goods and services</p> <p>Finding pertinent deals using digital tools and environments (e.g. by searching price comparison services)</p> <p>Identifying relevant search results from search outputs</p> <p>Checking search results beyond the first page</p>
<i>Attitude examples</i>	<p>Being proactive in searching for information about goods and services</p> <p>Valuing the positive impact that technologies have in helping one make better informed choices as a consumer</p> <p>Being willing to acknowledge the limits in one's ability to process information and to resist stimuli offered by the digital marketplace</p>

## 1.2 Evaluating and comparing information on goods and services

To compare and critically evaluate the reliability of digital sources of information on goods and services. To compare and critically evaluate information on goods, services, purchasing terms and conditions related to the digital marketplace. To compare commercial offers using comparison tools, websites and channels.

### *Knowledge examples*

Understanding that not all information online on goods and services is reliable or complete

Understanding that that price comparison results may not be complete, can be inaccurate or impartial

Knowing about digital tools (e.g. apps, portals, sites) that allow one to compare goods, services, prices

Knowing how to find sites, communities, and social media groups where consumers share opinions on products and services

Knowing how to check the reliability of e-commerce sellers and websites (e.g. verifying if the identity, address, contact details of the seller are complete)

Knowing that e-commerce trust marks<sup>3</sup> are a means of identifying reliable online shops

Knowing to compare only total prices that include VAT

Knowing that energy, telecommunication and financial services regulators make online comparison tools available

Knowing that independent consumer associations make comparison tools and comparative testing available online

Knowing that some (price) comparison tools' results may be influenced by advertising and/or marketing

### *Skills examples*

Being able to compare, contrast, and integrate information from different sources regarding prices, quality, purchasing terms and conditions of goods and services.

Being able to find relevant communities, networks, and social media groups where consumers share opinions about goods and services

Being able to verify the reliability of sellers before making transactions

Being able to adjust default settings for ranking of search results on platforms and portals

Being able to use online price comparison tools or tools that compare quality and price

Being able to assess the value of the information that is pushed at the consumer based on previous searches or

<sup>3</sup> <http://www.ecommerce-europe.eu/trustmark>

	visits via dynamic advertising or via social media pages or email
<i>Attitude examples</i>	<p>Values that making informed choices implies comparing offers from different providers</p> <p>Being critical regarding the presentation and alleged attractiveness of offers</p> <p>Valuing the possibility to make cautious and responsible purchasing decisions</p> <p>Critically evaluating the reliability, impartiality and accuracy of the information on comparison websites</p> <p>Recognising that people tend to choose default options</p> <p>Critically evaluating user reviews and ranking systems</p>

### 1.3 Recognising and evaluating commercial communication and advertisement

To recognise and critically evaluate different marketing and advertising methods and activities in digital environments. To recognise how advertising and commercial communication can influence one's choices as a consumer.

<i>Knowledge examples</i>	<p>Knowing that the purpose of advertising and marketing is to redirect attention and stimulate purchases, which may or may not be in line with one's intentions or needs</p> <p>Interpreting and analysing online marketing and advertising to understand whether the goods/services on sale are in line with one's interests and needs</p> <p>Realising that certain digital services are free of charge because they contain or facilitate marketing and advertising (e.g. through collecting personal data)</p> <p>Being aware of hidden advertisement techniques (e.g. when a blog writer or social media author is paid for writing a review)</p> <p>Understanding that some entries or comments on social media and/or consumers' reviews may be sponsored</p> <p>Recognising, analysing and interpreting embedded marketing practices in digital environments, e.g. on websites, in digital games, chats, social media</p> <p>Realising how consumers' digital trails (footprints) can be harvested, stored, analysed, traded and used for commercial purposes</p> <p>Being aware of drip pricing and hidden cost practices</p>
<i>Skills examples</i>	Distinguishing between commercial messages (e.g. paid advertisement through social media) and unbiased

	<p>consumer information in commercial communication</p> <p>Assessing the reliability of the information that is pushed at the user (e.g. advertisement through email and social media)</p> <p>Detecting unsolicited commercial messages and indicating one's unwillingness to receive these messages</p> <p>Exercising one's right to opt out of direct marketing</p>
<i>Attitude examples</i>	<p>Being critical towards advertising practices and being aware they may be misleading and/or disguised</p> <p>Adopting a critical attitude towards targeted advertising</p> <p>Being careful when making purchasing decisions and basing purchasing choices on information beyond advertisement</p>

#### 1.4 Managing digital identity and profile in the digital marketplace

To understand that one's profile as a digital consumer can be built, modified, manipulated and exploited. To manage the data that one generates through different digital tools and services. To create and manage one or multiple digital identities (e.g. personal, professional) to maximize the benefits of the digital marketplace.

<i>Knowledge examples</i>	<p>Understanding the benefits of having one or more digital identities, e.g. professional, private, as a consumer</p> <p>Knowing that one's consumer data – such as past purchases, products viewed – are analysed for marketing purposes</p> <p>Knowing that companies use digital identity data to better target and personalise offers</p> <p>Knowing which kind of data are processed when using certain services (i.e. geo-location data)</p> <p>Being aware that commercial targeting is based on the knowledge that companies have about one's digital identity (e.g. through the recognition of IP addresses, through device tracking, through email/account tracking)</p> <p>Realising that in several cases profile data are neither portable nor interoperable</p> <p>Realising that companies value their digital identity, that companies' brands are built on their digital reputation among other factors</p>
<i>Skills examples</i>	<p>Checking and modifying as appropriate the transaction details before confirming a purchase</p> <p>Constructing one or multiple profiles that benefit one's needs as a consumer, e.g. by using different emails to</p>

	<p>register with different services</p> <p>Tracking one's own digital footprint as a consumer, e.g. knowing how to review and manage one's purchase history or browsing interests in a commercial platform.</p> <p>Taking advantage of the benefits of building one's online profile and reputation i.e. through positive reviews</p> <p>Using digital tools available to manage or delete one's consumer profile</p> <p>Using different digital profiles/identities to counterbalance the effects of dynamic pricing</p> <p>Managing different usernames and passwords that are needed to log in to different digital services (with or without a password manager application)</p>
<i>Attitude examples</i>	Being critical towards tracking practices and claiming one's right to anonymity

### 1.5 Considering responsible and sustainable consumption in digital markets

To understand how one's behaviour as a digital consumer affects the community, society and environment. To use digital technologies to make socially and environmentally responsible choices.

<i>Knowledge examples</i>	<p>Evaluating the effects of one's behaviour as a digital consumer on the environment and its ethical and social impacts</p> <p>Knowing that the transport of goods purchased online has an impact on the environment</p> <p>Understanding the environmental impact of computers and electronic devices and how they can be made to last longer (e.g. changing hard disks) or recycled</p>
<i>Skills examples</i>	<p>Being able to use digital tools to improve the environmental and social impact of one's consumer behaviour (e.g. by looking for local produce, by searching for collective deals, etc.)</p> <p>Applying one's understanding of socially responsible sustainable consumption to purchases in the digital marketplace</p> <p>Choosing digital means that have less impact on the planet (e.g. reading an online newspaper instead of print; sharing, re-selling and recycling goods through P2P digital marketplaces)</p>
<i>Attitude examples</i>	Endorsing sustainable positions in the digital marketplace and advocating them (e.g. advocating sustainable production and/or consumption through social networking)

sites)
Positioning oneself as a sustainable digital consumer
Being critical about the excesses of consumption or unsustainable production and consumption

2.2.2. Area two: Purchase

Actions related to purchasing include making a purchase, participating in collaborative economy platforms, managing payments, understanding copyrights, licenses and contracts for digital content, protecting data and health.

- 2.1 Interacting in the digital marketplace to buy and sell
- 2.2 Participating in collaborative economy platforms
- 2.3 Managing payments and finances through digital means
- 2.4 Understanding copyrights, licenses, and contracts of digital goods and services
- 2.5 Managing personal data and privacy
- 2.6 Protecting health and safety

**2.1 Interacting in the digital marketplace to buy and sell**  
 To use digital marketplaces for buying and selling goods and services.

<i>Knowledge examples</i>	<p>Knowing about the opportunities and risks of selling goods and services in digital marketplaces</p> <p>Knowing that, in the digital marketplace, goods and services can be bought and sold either through commercial transactions or through consumer-to-consumer transactions</p> <p>Knowing about tangible goods (i.e. those good that have a physical nature) and intangible goods (i.e. virtual or digital goods)</p> <p>Knowing that, in the EU, prices for goods and services offered for sale online must be inclusive of VAT</p> <p>Knowing that, in the EU, pre-ticked boxes for buying additional services are prohibited</p> <p>Understanding the different rules that apply when buying online from a company or from a private person (i.e. consumer-to-consumer transactions)</p> <p>Knowing that, in the EU, there is a 14-day right of withdrawal when buying online from traders</p> <p>Knowing how to check if a trader is based in one’s own</p>
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	<p>country, in the EU or elsewhere</p> <p>Knowing that the internet gives access to the global marketplace and that rules that apply, (for example, for products and services that are prohibited) can be different by country.</p> <p>Knowing that EU online consumer rights also apply to online purchases from traders outside the EU if they direct their activities to EU consumers</p> <p>Knowing how to cancel an online purchase</p>
<i>Skills examples</i>	<p>Being able to sell goods using digital marketplaces (e.g. eBay)</p> <p>Checking if platforms that facilitate sales by a third party decline or accept (limited) liability for transactions concluded with third parties</p> <p>Being able to contact sellers and services providers through different digital means (e.g. email, forum, chats) and to interact according to one's needs</p> <p>Being able to use apps that manage passwords safely</p> <p>Checking that the description and pictures of a product/service correspond and are exhaustive</p> <p>Checking whether platforms that facilitate sales by a third party (e.g. E-bay) decline or accept (limited) liability for transactions concluded with third parties</p> <p>Checking that no unwanted additional services are included before confirming a purchase</p>
<i>Attitude examples</i>	<p>Taking an active attitude in contacting sellers and services providers at the different stages of the purchase</p> <p>Proactively changing passwords for e-commerce accounts</p>

## 2.2 Participating in P2P and collaborative economy platforms

To understand and participate in sharing or collaborative economy platforms. To engage in micro-selling practices (P2P). To recognise different and new digital business models.

<i>Knowledge examples</i>	<p>Knowing about peer-to-peer (P2P), sharing and collaborative economy platforms for (re)sale, exchange and renting/hiring of goods and services</p> <p>Understanding the risks and opportunities of using collaborative economy platforms</p> <p>Knowing that when buying goods and services from private persons or peers online, one's rights are different than when buying online from a trader (e.g. right to cancel a</p>
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	<p>purchase)</p> <p>Knowing that there may be legal and tax issues when selling goods and services or when renting out rooms, apartments or houses via online platforms</p> <p>Knowing that regularly selling, renting out etc. via online platforms for a profit can add up to a professional activity that must be declared to the tax authorities and is subject to sectorial regulation</p> <p>Knowing that (in certain countries) a special legal statute exists for micro entrepreneurs</p> <p>Knowing that certain online platforms will provide assistance and insurance in case of problems with a transaction between peers</p> <p>Knowing how to distinguish crowdfunding and other collaborative platforms that facilitate gifts or exchanges from those facilitating sales/renting/hiring or investment</p>
<i>Skills examples</i>	<p>Being able to assess the reliability of a P2P, collaborative or sharing platform</p> <p>Being able to verify the reliability of the sellers and offers on online platforms, e.g. by using rating systems and user reviews</p> <p>Being able to assess if user reviews are valid and well argued, and sufficient in number to generate trust</p> <p>Being able to check for any rules and obligations applicable to one's activity on P2P platforms</p> <p>Being able to search and find local, national and international P2P platforms that respond to one's needs</p> <p>Being able to communicate with other peers on P2P platforms about details of transactions</p> <p>Being able to present offers correctly and with clear prices, including costs of payment, delivery and platform fees</p>
<i>Attitude examples</i>	<p>Critically evaluating the opportunities and cost-effectiveness of the peer-to-peer economy, and also its risks</p> <p>Proactively checking applicable rights and responsibilities when engaging in P2P, collaborative or sharing economy platforms</p>

### 2.3 Managing payments and finances through digital means

To safely make digital payments and use online financial services. To use digital technologies to keep track of and manage one's personal budget.

<i>Knowledge</i>	Knowing that digital devices, including tablets, computers,
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<i>examples</i>	<p>smartphones, enable access to bank account and payment services anytime, anyplace</p> <p>Knowing that services and goods can be paid for through digital devices (e.g. mobile phone, smartphone)</p> <p>Knowing how digital wallet services work</p> <p>Knowing the risk related to using digital financial services</p> <p>Knowing the importance of safeguarding passwords, pin numbers, etc.</p> <p>Knowing that systems for authenticating online payments (e.g. code via SMS) offer a higher level of security</p> <p>Knowing that, in online payments, one should never give the four digit pin code of a debit/payment/credit card, as used for cash withdrawals or paying in offline shops</p> <p>Knowing not to send e-commerce a scan of credit cards or bank cards</p> <p>Knowing that the amount of the purchase can be taken from one's account immediately at the time of purchase, even if delivery is later, unless otherwise indicated by the seller</p> <p>Knowing that security software should be installed on devices to secure online payments</p>
<i>Skills examples</i>	<p>Being able to use access devices (e.g. authentication tools) and use digital financial services (e.g. banking, PayPal) safely</p> <p>Being able to recognise phishing or pharming attacks on online banking</p> <p>Being able to identify whether online payments are secure and encrypted by checking the address bar/URL for "https" instead of "http" and the closed padlock security sign</p> <p>Being able to challenge a payment in case of fraudulent use of a payment/credit card online and obtain reimbursement</p> <p>Being able to recognise whether a payment involves automatic repeat purchases of goods or automatic contract or subscription renewal</p>
<i>Attitude examples</i>	<p>Critically evaluating different types of security measures used in digital transactions and attaching importance to security (e.g. keeping pin numbers, passwords safe)</p> <p>Being aware of the benefits and risks of managing finances and financial transactions through digital means</p>

## 2.4 Understanding copyrights, licenses, and contracts of digital goods and services

To understand and act upon rights and responsibilities related to digital content, goods and services.

<p><i>Knowledge examples</i></p>	<p>Knowing that some digital content (music, movies, books, etc.) are available for free and that others are for purchase</p> <p>Knowing that digital content (music, movies, books, etc.) can be subject to copyright and that downloading copyrighted material without permission is illegal</p> <p>Knowing that it is illegal to upload and share certain content such as music</p> <p>Knowing that sharing illegally downloaded content with others can give rise to legal sanctions</p> <p>Knowing that it is not possible to cancel the purchase of digital content once it has been downloaded</p> <p>Knowing which licenses apply to the goods and services one is interested in</p> <p>Knowing that most software is used under licenses, which need to be renewed once the license periods expire</p> <p>Being aware that that streaming and downloading movies, shows, books from pirate websites is illegal</p> <p>Knowing that some content (music, movies, books, etc.) may not be accessible because of one's location (i.e. geo-blocking)</p>
<p><i>Skills examples</i></p>	<p>Being able to check which sites offer illegal downloading or streaming</p> <p>Being able to select legal material for downloading or uploading</p> <p>Being able to check and understand the right to use or re-use digital content and goods that one purchased</p>
<p><i>Attitude examples</i></p>	<p>Critically evaluating different types of security measures used in digital transactions and attaching importance to security (e.g. keeping pin numbers, passwords safe)</p> <p>Being aware of the benefits and risks of managing finances and financial transactions through digital means</p>

## 2.5 Managing personal data and privacy

To protect personal data and privacy in the digital marketplace. To understand how to share identifiable personal information while protecting oneself and others from risks. To know that digital services provide a "Privacy policy" to inform how personal data is used and acting upon this information.

<i>Knowledge examples</i>	<p>Being aware that every time one goes online, one shares information and data about oneself, one's purchasing interests and one's behaviour with the search engines, social media and/or the sites one visits</p> <p>Knowing it is not easy to delete personal data or information after having shared them, or to transfer them to another service provider</p> <p>Understanding that clicking "I accept" to a "Privacy policy" may mean that one agrees that one's personal data may be sold to third parties</p> <p>Knowing which measures to take to protect and manage personal data and privacy to avoid fraud</p> <p>Understanding that assumptions are made about behaviour and purchasing interests based on automated processing of data (profiling)</p> <p>Knowing where to go and who to talk to when one is concerned about personal data use</p> <p>Being aware that personal data are also collected, processed and stored outside the EU, and that different data protection rules may in some cases apply</p> <p>Knowing how to find out how personal data are being used by third parties</p> <p>Being aware that personal data can be sold and used by third parties for targeted marketing purposes</p> <p>Knowing that in the digital marketplace some goods and services can be acquired for "free" in exchange for one's personal data, and realising the implications of these exchanges</p>
<i>Skills examples</i>	<p>Reviewing privacy policies and identifying key terms about personal data use</p> <p>Identifying privacy policy terms that are a threat to data privacy</p> <p>Checking privacy policies to verify whether personal data are sold or transferred to third parties</p> <p>Being able to change the privacy settings on social media</p> <p>Checking what data protection rules apply and using one's rights to access, modify and suppress data of this kind</p> <p>Being able to access and modify or request deletion of personal data given to a seller</p> <p>Knowing how to claim the right to be forgotten<sup>4</sup></p> <p>Verifying the level of security offered by online shopping</p>

<sup>4</sup> [http://ec.europa.eu/justice/data-protection/files/factsheets/factsheet\\_data\\_protection\\_en.pdf](http://ec.europa.eu/justice/data-protection/files/factsheets/factsheet_data_protection_en.pdf)

	<p>websites, marketplaces , apps and (free) digital services</p> <p>Setting privacy enhancing tools to protect the privacy of one's personally identifiable information</p> <p>Weighing benefits and risks when/if sharing data in digital environments</p>
<i>Attitude examples</i>	<p>Being responsible for protecting one's and others' personal data when making online purchases</p> <p>Valuing the protection of personal data when shopping online</p> <p>Weighing the benefits of sharing personal and consumer data (e.g. to receive personalised suggestions, auto-complete forms) against the risks (e.g. profiling, identity theft, fraud, unsecure transactions)</p>

## 2.6 Protecting health and safety

To understand and avoid physical and psychological health and safety risks related to information, goods and services in the digital marketplace.

<i>Knowledge examples</i>	<p>Understanding that online purchasing behaviour can have addictive aspects</p> <p>Knowing that when buying products online, especially from e-commerce sites or apps located outside the EU/EEA, it is advisable to double-check whether the product complies with EU safety standards or is banned in the EU</p> <p>Knowing that online medical advice can be unreliable or sponsored by producers/sellers of medical or paramedical products</p> <p>Knowing that when buying medical products online, the EU logo for online sale of medicines indicates that the site or app is operating legally and not selling falsified and illegal products</p> <p>Knowing that second-hand products bought, rented or borrowed from other consumers online are not subject to product safety rules</p>
<i>Skills examples</i>	<p>Checking whether a product was subject to a recall or other restrictive measures on RAPEX website<sup>5</sup> and/or OECD portal on product recalls<sup>6</sup></p>
<i>Attitude examples</i>	<p>Assuming responsibility for protecting personal health and safety when shopping in the digital market</p> <p>Critically evaluating the effects that digital and media-</p>

<sup>5</sup> [http://ec.europa.eu/consumers/consumers\\_safety/safety\\_products/rapex/index\\_en.htm/](http://ec.europa.eu/consumers/consumers_safety/safety_products/rapex/index_en.htm/)

<sup>6</sup> <http://globalrecalls.oecd.org/>

	<p>embedded merchandising can have on wellbeing</p> <p>Being vigilant regarding one’s purchasing behaviour and evaluating the risk of addictive digital purchasing</p>
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2.2.3. Area three: Post-purchase

Actions taken after purchase include sharing information, asserting consumer rights, updating digital consumer competences.

3.1 Sharing information with other consumers in the digital marketplace

3.2 Asserting consumer rights in the digital marketplace

3.3 Identifying digital consumer competence gaps and limits

**3.1 Sharing information with other consumers in the digital marketplace**  
 To share reviews, knowledge, advice, and experiences in the digital marketplace.

<i>Knowledge examples</i>	<p>Knowing about websites that offer users advice on products and services and understanding that their reliability may vary</p> <p>Understanding that information can be shared anonymously or through profiles</p> <p>Knowing how to find sites, communities, and social media groups where consumers help each other solve problems with products and services</p>
<i>Skills examples</i>	<p>Evaluating the information that peers are sharing digitally about goods and services.</p> <p>Judging the value of the content to share and the target audience to share it with</p> <p>Sharing experiences with fellow consumers on social media and digital platforms</p> <p>Providing advice to other consumers through social media, discussion fora, online rating, etc.</p>
<i>Attitude examples</i>	<p>Being active in sharing one’s opinions regarding products and services</p> <p>Being willing to acknowledge the benefits and pitfalls of one’s sharing experiences as a consumer</p>

**3.2 Asserting one’s rights as a consumer in the digital marketplace**  
 To know one’s rights and responsibilities as a digital consumer. To assert one’s rights after making a purchase and to know how to solve problems and disputes.

<i>Knowledge</i>	<p>Knowing that many basic digital consumer protection rules and rights are similar in all EU countries, but can be (very)</p>
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<i>examples</i>	<p>different elsewhere</p> <p>Knowing about specific consumer rights that apply to online purchases only</p> <p>Knowing how to find help to solve disputes and post-purchase problems</p> <p>Being aware of one's right to be forgotten<sup>7</sup></p> <p>Being aware of one's right to cancel online purchases of most goods within 14 days of delivery and get reimbursed without justification</p> <p>Knowing the main exceptions to the right to cancel a purchase (food, tailor made products, unpacked CD, DVD and software, opened hygienic and health products, travel products like hotels and tickets)</p> <p>Recognising the importance of accepting terms and conditions related to digital purchases and transactions in digital marketplaces and platforms, and the consequences this may have</p> <p>Knowing that online out-of-court redress options (Online Dispute Resolution) exist if there are problems with an online transaction</p> <p>Knowing that different types of redress options exist</p> <p>Knowing that online purchases must be delivered within 30 days of purchase, and can be cancelled by mail in case a reasonable additional delay is not respected</p> <p>Knowing that rights and responsibilities apply when buying online from a trader, and are not the same when buying from private citizens</p> <p>Realising that one can file a complaint with the authorities to solve a dispute with a trader</p>
<i>Skills examples</i>	<p>Finding independent advice on digital consumer rights and redress</p> <p>Being able to file a form for cancelling an online purchase or write an e-mail to cancel a purchase</p> <p>Using different means to assert rights after an online purchase, be it online or offline</p> <p>Exercising consumer rights in practical situations</p> <p>Finding information and/or digital platforms for redress and consumer rights</p> <p>Checking deliveries of online purchases before signing for receipt</p>

<sup>7</sup> [http://ec.europa.eu/justice/data-protection/files/factsheets/factsheet\\_data\\_protection\\_en.pdf](http://ec.europa.eu/justice/data-protection/files/factsheets/factsheet_data_protection_en.pdf)

<i>Attitude examples</i>	<p>Being motivated to assert one's consumer rights and filing a complaint if necessary</p> <p>Being confident in taking action with after-sales services if an online purchase is not as desired</p>
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### 3.3 Identifying digital consumers' competence gaps and limits

To understand gaps and limits of one's digital consumer competences. To keep updated with developments in the digital marketplace that have an influence on one's opportunities and risks as a digital consumer.

<i>Knowledge examples</i>	<p>Understanding and evaluating the opportunities and risks that technology offers one as a consumer</p> <p>Understanding that one's knowledge of the digital domain as a consumer might be limited and that the rules of the digital marketplace evolve rapidly</p> <p>Understanding the need to update one's digital competence to benefit most from the opportunities offered by the digital marketplace</p>
<i>Skills examples</i>	<p>Possessing the skills to update one's own knowledge about the purchasing and selling possibilities offered by digital technologies</p> <p>Being able to adapt to new practices of the digital marketplace</p>
<i>Attitude examples</i>	<p>Being confident and willing to experiment with new digital tools and digital practices that could benefit one's digital purchasing experience</p> <p>Following technological developments and being vigilant as regards the benefits and risks that one faces as a consumer</p>

### 3 A proposal for three proficiency levels

This chapter proposes three proficiency levels for each DigCompConsumers competence as a simple way to define progression in proficiency. While recognising that learning or achieving proficiency does not always occur linearly, this is intended as one of various possible ways to define steps of progression in proficiency that consumers can make to function in digital markets.

The European Commission has defined empowered consumers as making optimal decisions by understanding their own preferences and the choices available to them. They know their rights, recognise when these have been breached and complain and seek redress when necessary<sup>8</sup>. Defining the knowledge, skills and attitudes of the "average consumer" was not deemed feasible by most experts participating in the workshop at this stage. This is because they consider the average consumer concept as defined by the legislation and jurisprudence as too far removed from their knowledge and perceptions of real consumer behaviour.

A survey conducted in the EU (+ Norway and Iceland) for a study of consumer vulnerability in core markets<sup>9</sup> has however underlined that most consumers show some signs of vulnerability in key markets (energy, financial and digital products and services), while only less than 20% show no signs of vulnerability. Vulnerability was found to be most frequent when consumers face complex marketing and are unable to select the best deals. A high share of consumers experience difficulties buying, choosing and accessing suitable products, and does not compare deals in these markets. Recent research on digital markets has demonstrated that data protection, payment security and consumer rights are major concerns of digital consumers<sup>10</sup>.

The rationale for the description of levels is based on the notion that consumer behaviour and choices are a part of the mastery of everyday life, as developed in the model created by Liisa Haverinen (1996). This model takes into account that consumers' choices are not always rational but depend, most of the time, on the circumstances. The model created by Haverinen uses three dimensions and three levels to describe the development of mastery. The levels go from the most basic level (repetitive mastery), to intermediate (applicable mastery), to advanced (reformative, creative mastery). This theoretical model is applied to families and households, and touches upon a variety of issues which are beyond the scope of this work. What we retain from the Haverinen model are the activities related to the choices of the individual as a consumer and the rational of proficiency. The model is an empowering one, as the individual is considered capable to control the course of his/her own life and is enabled to evaluate his/her own actions and to take responsibility for them.

From the theory of mastering everyday life, we particularly consider the three level model of Haverinen. This has been adapted by the authors to reflect the specificities of consumers' behaviour, and to fit the definition of competence as the sum of knowledge, skills, and attitudes, as defined in the Recommendations on key competences for lifelong learning (European Parliament and the Council 2006). Proficiency is in this context circumstantial: a consumer may in his/her everyday life operate at different levels of proficiency depending on the context and the circumstances. Therefore, the proficiency does not describe a consumer, but rather an action taken by a consumer in a specific situation.

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[http://ec.europa.eu/consumers/consumer\\_empowerment/docs/swd\\_consumer\\_empowerment\\_eu\\_en.pdf](http://ec.europa.eu/consumers/consumer_empowerment/docs/swd_consumer_empowerment_eu_en.pdf), page 2

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[http://ec.europa.eu/consumers/consumer\\_evidence/market\\_studies/vulnerability/index\\_en.htm](http://ec.europa.eu/consumers/consumer_evidence/market_studies/vulnerability/index_en.htm)

see

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[http://ec.europa.eu/consumers/consumer\\_evidence/market\\_studies/obstacles\\_dsm/index\\_en.htm](http://ec.europa.eu/consumers/consumer_evidence/market_studies/obstacles_dsm/index_en.htm)

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We consider that for each proficiency step, the action includes element of knowledge, skills, and attitude. The three proficiency levels, as shown in Figure 1, can guide users to improve their consumer digital competence and to establish at which level of proficiency they generally operate. The two-way arrow in the figure aims to indicate that each specific consumer action can show a different proficiency level, as generally the behaviour of consumer can vary according to specific circumstances. Thus the same consumer may show a certain level proficiency on one occasion, and a different level of proficiency on other occasions.

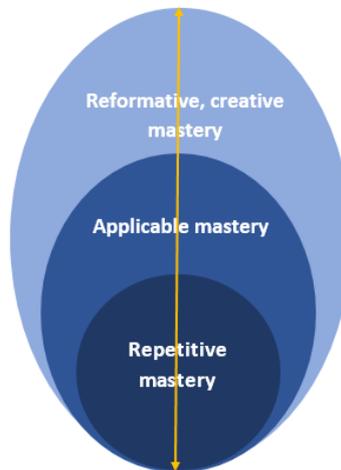


Figure 1: Model of mastery of everyday life (Haverinen, 1996), simplified by authors

The three levels we propose are based on this model and can be thus described as follows:

*Basic level:* this refers to “repetitive mastery”. Knowledge is factual, skills are functional, and attitudes are 'narrow', i.e. limited to familiar contexts and repetitive situations. The action is bound to a particular context, in a familiar environment, showing inability to cope with unfamiliar or new situations.

*Intermediate level:* this refers to “applicable mastery”. Knowledge is general, skills are operational, and attitudes are balanced. The action is guided by general principles, applied to situations that may vary from familiar to new.

*Advanced level:* this refers to “reformative, creative mastery”. Knowledge is factual and theoretical, skills are technical, and attitudes are open-minded and innovative. The action takes into account several and complex factors; the behaviour generates new opportunities that consider and evaluate others’ practices.

It should be noted that an individual consumer may have a different level of proficiency in one or more specific competences as compared to other competences. Therefore, one person might fall into the basic category for one competence while being extremely proficient at another. A consumer can also display one level of a competence at one occasion, and another level of the same competence at a different moment, be it higher or lower, as consumer do not always act with the same level of attention and reflection.

The advanced level is formulated and intended as a 'model' empowered consumer. As demonstrated in the growing evidence base from behavioural studies, very few consumers act in a rational and strategic way all the time. However, this competence level was set high to inspire progress and to include all the facets of the competence. Although the goal is to reach the highest level of proficiency, even at the lower level the behaviour shows some mastery, i.e. some minimum competence.

Consumer education experts have underlined that even an advanced level of consumer competences should not be used as a justification for not intervening to correct market failures. Regulations and legislation that protect all consumers, irrespective of their level of competences, should be put in place and adapted to new and/or emerging market practices.

### 3.1. Area one: Pre-purchase

#### 1.1 Browsing, searching and filtering information on goods and services

To search for and access information related to goods and services using digital tools. To identify and select the information needed regarding goods, services, and transactions options.

Basic	Intermediate	Advanced
<p>Performs routine searches related to goods and services.</p> <p>Realises the potential of digital tools in offering information to consumers.</p>	<p>Develops search habits and plans to access information on goods, services, and transactions.</p> <p>Selects the information that is most relevant to his/her purchasing needs and possibilities.</p>	<p>Combines different strategies for searching and filtering information on goods, services, and transactions that benefit his/her purchasing power, adapting the strategies to each situation.</p> <p>Processes and monitors information on goods and services to benefit his/her purchasing needs and possibilities.</p>

#### 1.2 Evaluating and comparing information on goods and services

To compare and critically evaluate the reliability of digital sources of information on goods and services. To compare and critically evaluate information on goods, services, purchasing terms and conditions related to the digital marketplace. To compare commercial offers using comparison tools, websites and channels.

Basic	Intermediate	Advanced
<p>Uses familiar price comparison websites to compare products and prices according familiar routines and habits.</p> <p>Compares familiar products and prices using online tools.</p>	<p>Evaluate online information on goods and services and compares information using a variety of sources and means.</p> <p>Considers user review information on goods and services.</p>	<p>Evaluates the reliability of different price comparison websites, tools or apps.</p> <p>Verifies opinions on goods and services and is critical about users' feedback. Critically assesses the reliability of a seller before making a purchase.</p>

#### 1.3 Recognising and evaluating commercial communication and advertisement

To recognise and critically evaluate different marketing and advertising methods

and activities in digital environments. To recognise how advertising and commercial communication can influence one's choices as a consumer.

Basic	Intermediate	Advanced
<p>Recognises blatant marketing practices that he/she is familiar with.</p> <p>Knows that he/she needs to compare commercial offers using comparison tools that he/she is familiar with.</p> <p>Recognises familiar and frequent commercial communication and advertisement he/she is exposed to.</p>	<p>Discriminates between information and regular commercial communication or advertisement.</p> <p>Assesses the value and relevance of commercial offers through digital tools.</p> <p>Realises that commercial communication and advertising influence his/her purchasing choices.</p>	<p>Demonstrates a refined and critical understanding of all possible types of commercial communication and advertising and interprets them.</p> <p>Judges and compares commercial offers and advertisements through digital tools.</p> <p>Is critical in evaluating how commercial communication and advertising influence his/her purchasing choices.</p>

#### 1.4 Managing digital identity and profile in the digital marketplace

To understand that one's profile as a digital consumer can be built, modified, manipulated and exploited. To manage the data that one generates through different digital tools and services. To create and manage one or multiple digital identities (e.g. personal, professional) to maximize the benefits of the digital marketplace.

Basic	Intermediate	Advanced
<p>Realises that the email or account that he/she uses for purchases corresponds to his/her digital identity as a consumer.</p> <p>Knows that his/her identity is recognised and his/her data tracked in order to tailor personalised commercial offers and prices.</p> <p>Uses his/her email or account for routine or familiar purchasing habits.</p>	<p>Uses one or different accounts for registering to purchasing sites.</p> <p>Manages the data that he/she generates in the digital marketplace.</p> <p>Creates and modifies his/her digital identity for purchasing or selling purposes.</p>	<p>Tailors the use of his digital accounts to his/her purchasing or selling strategy.</p> <p>Employs different techniques to avoid or benefit from consumer data tracking. Manages his/her identity according to his/her purchasing habits, needs, desires.</p> <p>Holds a full and refined understanding of data tracking in digital environment and its exploitation for commercial offers and marketing practices. Strategically manages several identities in order to avoid traps and benefit</p>

from the best deals.

### 1.5 Considering responsible and sustainable consumption in digital markets

To understand how one's behaviour as a digital consumer affects the community, society and environment. To use digital technologies to make socially and environmentally responsible choices.

Basic	Intermediate	Advanced
Realises that his/her routine choices as a digital consumer have an impact on his/her familiar context.	Is informed on the consequences that his/her choices as a digital consumer have on the community, society and environment.	Takes an informed and coherent stand on responsible and sustainable consumption in digital markets, having a holistic overview.
Knows that digital technologies can help make socially and environmentally responsible choices.	Uses digital tools for limiting his/her impact on the planet as a digital sustainable consumer.	Understands how to exploits digital tools to implement his/her vision on responsible and sustainable consumption in digital markets.

## 3.2. Area two: Purchase

### 2.1 Interacting in the digital marketplace to buy and sell

To use digital marketplaces for buying and selling goods and services.

Basic	Intermediate	Advanced
Appreciates the opportunities offered by digital technologies to buy and sell goods and services.	Balances opportunities and risks when using digital marketplaces to buy and sell goods and services.	Is critical and efficient when engaging in the digital marketplace to buy and sell goods and services.

### 2.2 Participating in P2P and collaborative economy platforms

To understand and participate in sharing or collaborative economy platforms. To engage in micro-selling practices (P2P). To recognise different and new digital business models.

Basic	Intermediate	Advanced
Is aware of sharing or collaborative economy platforms.	Participates to sharing or collaborative economy platforms assessing the benefits.	Evaluate the benefits and disadvantages offered by the sharing or collaborative economy platforms.
Knows that it is possible to buy and sell goods and services through digital technologies between individuals.	Engages with micro-selling and P2P practices while being aware that they might involve some	Is effective in exploiting the potential of micro-selling and P2P practices

Realises that digital technologies create new forms of buying and selling.	risks.  Is informed about the different and new digital business models that arise.	while avoiding the risks.  Recognises the potential of crowdsourcing and can evaluate the impact of the different and new digital business models.
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### 2.3 Managing payments and finances through digital means

To safely make digital payments and use online financial services. To use digital technologies to keep track of and manage one's personal budget.

Basic	Intermediate	Advanced
Knows how to make a payment in a digital environment he/she is familiar with.	Routinely carries out digital payments and uses online financial services.	Safely makes digital payments and use online financial services with confidence, recognising when digital environments might not be safe.
Protects passwords, security tokens, personal details and other confidential data during digital payments or transactions.	Identifies unsecured web pages for digital payments or transactions.	Selects the online payment and transaction methods which use strong customer authentication.
Realises that online banking can help keeping track of his/her personal budget.	Manages his/her personal budget in an efficient way using online banking and/or personal finance tools.	Manages and tracks the full complexity of his/her multiple accounts using critically selected online banking and/or personal finance tools.

### 2.4 Understanding copyrights, licenses, and contracts of digital goods and services

To understand and act upon rights and responsibilities related to digital content, goods and services.

Basic	Intermediate	Advanced
Knows that he/she has both rights and responsibilities that apply to the digital content, goods, and services he/she consumes or uses.	Understand the consequences of his/her use and consumption of digital content, goods, and services.	Has an informed and critical understanding of the aspect that surround copyright, licenses, and contracts of digital content, goods, and services.

### 2.5 Managing personal data and privacy

To protect personal data and privacy in the digital marketplace. To understand

how to share identifiable personal information while protecting oneself and others from risks. To know that digital services provide a "Privacy policy" to inform how personal data is used and acting upon this information.

Basic	Intermediate	Advanced
Knows that personal data are not safe to share in the digital marketplace.	Protects his/her privacy in the digital marketplace.	Protects privacy in different ways and personal sensitive data during all phases of a purchase.
Realises which familiar transactions will require sharing personal data.	Weights risks and benefits when sharing personal data in digital environments for his/her selling and buying practices.	Know when it is beneficial to share personal data in digital environments for selling and buying practices.
Knows that digital services have a privacy policy.	Is informed of the privacy policy of the digital services he/she uses.	Understand how different policies regarding data apply to digital consumers, and the consequences this may have when using/purchasing services from within and from outside the EU.

## 2.6 Protecting health and safety

To understand and avoid physical and psychological health and safety risks related to information, goods and services in the digital marketplace.

Basic	Intermediate	Advanced
Realises that his/her ease in purchasing routines or habits might have negative effects on his/her health and safety.	Understands the risks for health and safety of his/her behaviour as a digital consumer and avoids them.	Takes health and safety as a priority for his/her behaviour as a digital consumer.

### 3.3. Area three: Post-purchase

#### 3.1 Sharing information with other consumers in the digital marketplace

To share reviews, knowledge, advice, and experiences in the digital marketplace.

Basic	Intermediate	Advanced
Shares his/her own views on products through digital means with his/her family and friends.	Discriminates biased views from useful feedback from other digital consumers and provides reviews, opinions, experiences in the digital marketplace.	Compares several digital sources of opinions shared by other digital consumers, has a critical and experienced understanding of the benefits and limits of peers' opinions, and provides useful and trustful reviews,

		knowledge, advice, and experiences in the digital marketplace.
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### 3.2 Asserting one's rights as a consumer in the digital marketplace

To know one's rights and responsibilities as a digital consumer. To assert one's rights after making a purchase and to know how to solve problems and disputes.

Basic	Intermediate	Advanced
Realises the rights and responsibilities that apply to his/her consuming habits and routines, when purchasing in the digital marketplace.	Is informed about his/her basic rights and responsibilities as a digital consumer.	Promotes and defends his/her rights and assumes his/her responsibilities as a digital consumer.
Understands that he/she has rights after-purchase in case of issues or disputes.	Complains to the seller to enforce his/her rights in case of after-purchase issues or disputes.	Fully asserts his/her rights after purchase and is fully in control of the different options to enforce them.

### 3.3 Identifying digital consumers competence gaps and limits

To understand gaps and limits of one's digital consumer competences. To keep updated with developments in the digital marketplace that have an influence on one's opportunities and risks as a digital consumer.

Basic	Intermediate	Advanced
Realises the limits of his/her digital competence as a consumer.	Recognises the gaps in his/her digital competence as a consumer and is able to update the purchasing/selling practices.	Regularly updates his/her digital competence as a consumer and his/her consumer practices.
Understands that the digital marketplace is changing and evolving.	Recognises how and when the digital marketplace evolves.	Follows the developments in the field in order to benefit from digital purchasing experience in an evolving digital marketplace.

### 3.4. An alternative proposal for proficiency levels

In curriculum development, proficiency levels are decided nationally, regionally or by schools themselves. There are major differences between Member State approaches in general, and as regards consumer education in particular. The examples of relevant knowledge, skills, and attitudes given in this framework could be used as a starting point for building learning outcomes by the competent educators.

Any proposal for proficiency levels for educational uses can only be indicative – defining specific levels for specific targets would risk to become prescriptive. For educational purposes a high degree of levelling is necessary. Such an exercise should be undertaken in function of age groups and required proficiency scales, which may vary from country to country, or even from region to region. This remains beyond the scope of this project.

The table below explores a method for developing proficiency levels that could be helpful in educational context . This method for building proficiency levels follows the approach used with respect to the general DigComp framework 2.0. It sets out 8 levels of learning outcomes . Learning outcomes are defined as a statement of what a learner is expected to know, understand, or be able to do at the end of a learning process. The terminology used is based on Bloom’s taxonomy and on the European Qualification Framework, which describes the level of proficiency in function of one’s autonomy regarding the competence in question. Figure 2 exemplifies a proposal by JRC on the first competence of DigCompConsumers.

From this example it can be seen that while there is a group of words that is invariable (which is taken from the description of the competence), while the underlined words (action verbs and adjective/adverbs) specify the different proficiency.

Competence	Proficiency levels							
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8
1.1 Browsing, searching and filtering information on goods and services  To search for and access information related to goods and services using digital tools. To identify and select the information needed regarding goods, services and transactions options.	<b>At basic level and guided:</b>  • I can <u>find</u> information related to goods and services through a simple search using digital tools. • I can <u>identify</u> simple relevant information needed regarding goods and services, and <u>select</u> those available in a simple way.	<b>At basic level and guided with some autonomy:</b>  • I can <u>find</u> information related to goods and services through a simple search using digital tools. • I can <u>identify</u> simple relevant information needed regarding goods and services, and <u>select</u> those available in a simple way.	<b>On my own and solving some generic problems related:</b>  • I can <u>perform</u> some searches to access information related to goods and services using digital tools. • I can <u>select</u> some relevant information needed regarding goods, services and transactions options.	<b>Independently, according to my own needs, and solving specific problems related:</b>  • I can <u>organise</u> the searching of specific information related to goods and services using digital tools. • I can <u>differentiate</u> relevant information needed to select goods, services and transactions options.	<b>Including the support of others in performing them:</b>  • I can <u>apply</u> searches to obtain information related to goods and services using digital tools. • I can <u>use</u> a variety of relevant sources to select information needed regarding goods, services and transactions options.	<b>At advanced level and adapted to my own needs, those of others and the complexity of the context:</b>  • I can <u>adapt</u> my searching strategy to find the <u>more</u> appropriate information related to goods and services using digital tools. • I can <u>decide</u> which is the <u>more</u> convenient information to select, regarding goods, services and transactions options.	<b>At highly specialised level:</b>  • I can <u>create</u> solutions to special problems related to browsing, searching and filtering of information on goods and services. • I can <u>integrate</u> my knowledge to contribute to <u>professional practice and knowledge</u> and to <u>guide</u> others in browsing, searching and filtering of information on goods and services.	<b>At the most advanced and specialised level:</b>  • I can <u>create</u> solutions to solve critical problems related to browsing, searching and filtering of information on goods and services. • I can <u>propose</u> new ideas and processes to the field.

Figure 2: DigCompConsumers competence 1.1 in 8 levels. Source: JRC

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## 4 DigCompConsumers possible uses

In this section we discuss the possible uses of the framework at national and international level. In line with the DigComp framework update (DigComp 2.0), three categories of uses are identified: 1) Policy formulation and support, 2) Instructional planning for education, training and employment, 3) Assessment and certification. For DigCompConsumers uses, we follow in principle the same categories, but we have regrouped assessment and certification with instructional planning as this makes more sense within the context of consumer education. The examples of uses are those that were suggested by the experts who participated in the process of developing the framework. They are not meant to be exhaustive, but reported as indications of the types of uses that can or will be made.

### 4.1. Policy formulation and support

There are several examples and possibilities of use: (a) academic and policy research and (b) policy development uses.

#### 4.1.1. Examples of academic and policy research

In consumer policy research, the framework could be used for benchmarking the actual level of competences of various population groups through surveys, testing respondents on knowledge items or skills, or through behavioural experiments. An example of this is the testing of knowledge items about online behavioural advertising and cookies, and in-app data collection practices as undertaken by the Amsterdam School of Communication Research (Smit et al, 2014).

Both the University of Amsterdam and the Norwegian National Institute for Consumer Research (SIFO) will consider using the examples of the framework for drafting survey questionnaires to verify levels of existing knowledge and skills. Such data could be used in consumer policy development, to help evaluate the impact of different types of measures on consumers in general or specific consumer groups, and to further develop the concepts of vulnerable consumer and average consumer.

In addition, through linking the framework competences to existing survey data, it could also be used to develop Digital Consumer Skills indicators, to determine and benchmark competence levels of the population. Although ambitious, the proficiency levels could be used to develop indicators of consumer skills for the Digital Economy and Society Index (DESI)<sup>11</sup>. The DESI is composed of five principal policy areas: connectivity, human capital/digital skills, use of internet, integration of digital technology and digital public services, and more than 30 indicators. The general DigComp framework has been used in this way to develop an EU-wide "Digital Skills Indicator", which is a sub-dimension of human capital area. It is based on four DigComp competence areas (information, communication, content creation and problem solving) and uses Eurostat survey data on internet use as a proxy for digital skills. The area "Use of internet" of the Eurostat survey uses the sub-dimension "Transactions", which captures the propensity of Internet users to perform transactions online. It currently concentrates on two indicators: whether users go online to fulfil their banking needs (eBanking indicator), or to purchase products or services (Shopping indicator). The framework could also contribute to this area.

Both academic and policy types of research could also be used to create an evidence base for consumer education, for example to develop indicators to measure the need for and the impact of consumer education efforts. The absence of this type of data has been

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<sup>11</sup> see <https://ec.europa.eu/digital-single-market/en/desi>

identified as one of the main obstacles to consumer education development by the OECD<sup>12</sup> and at national level.

#### 4.1.2. Examples of policy development uses

The OECD Recommendation on Consumer Protection in e-Commerce as adopted in April 2016 includes new elements on Digital Competences. Its provisions call on governments and stakeholders to work together to improve consumers' digital competences through education and awareness programmes, to improve consumer knowledge and skills in accessing and using digital technology for participating in e-commerce. The DigCompConsumers framework is fulfilling this recommendation and the OECD intends to disseminate its final results. The OECD could also consider gathering information on its implementation at national level, and to identify best practice uses.

At national level many consumer policy stakeholders consider the framework a useful instrument for developing a dialogue between consumer policy and education ministries about the incorporation of digital consumer education into school curricula.

Within the framework of the cooperation between the Nordic countries and Estonia on consumer education, the framework will be used to review and adapt the media technology competence as described in the 2009 Nordic Strategy for Consumer Education. At national level this will feed into curricula development activities. In Estonia the framework will be used in the process of updating the national consumer policy strategy. These activities could subsequently be reviewed within the OECD context to identify best practices.

## 4.2. Instructional Planning and Assessment

### 4.2.1. Examples of uses for classification and identification of gaps in digital consumer education materials, and development of such materials

The framework could be used by various national and EU level consumer education portals for classification of existing teaching materials, to identify materials' gaps regarding digital competences, and as guidance for teachers using such sites.

The ConsumerClassroom.eu collaborative website for teaching consumer education for example intends to use the framework for developing its training section, and for tagging the pedagogical resources on the site. It will also guide their search for new materials on competences such as data protection and social media use.

The framework will in some countries also be recommended by authorities or other stakeholders to teacher training institutes and universities. At a more general level, the framework can be shared with organisations working on educational materials (publishers, etc.) and various types of educational organisations, such as teachers associations at national and EU level and teachers blogs as a basis for teaching material development.

### 4.2.2. Assessment and certification

Another type of possible use of the framework is for the development of (self) assessment tools. Such tools serve as a diagnostic or evaluation tool, and are often used by education providers and by individuals as diagnostic assessment, i.e. to establish their

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see <http://www.oecd.org/sti/consumer/promotingconsumereducationtrendsandgoodpractices.htm>

current level of proficiency and areas for improvement. The DigComp framework was for example used to develop a questionnaire which is used to identify digital competence gaps. Consumer associations see a possible use of the framework for assessment purposes, both of adults and of specific age groups. They underline the need to distinguish between self-reported competences (self-assessment) and tested competences, based on concrete test results. The assessment tool can help identify the competence gaps of consumers and offer training materials according to their needs, or to identify what type of training materials are needed.

## 5 Next steps

The DigCompConsumers framework may require further development and updating for two main reasons: first because digital competences must evolve as technologies and practices change; and secondly because the framework is still theoretical and conceptual, and needs to be tested in practice. Its practical implementation and use will reveal its usefulness, necessary adaptations and the need for proficiency level development for specific purposes.

However, some suggestions for next steps can already be made. The experts participating to the workshop held in Seville in April 2016 in particular recommended that the European Commission develops a strategy for the dissemination of the framework, including, for instance:

- a communication plan, including the use of social media, to spread information about the framework;
- creation of visual material (infographics, videos) to increase visibility;
- translation of the framework in the other official EU languages to help dissemination and visibility at national level, and ease implementation.

At institutional level, moreover, the European Commission could explore if there is a demand for implementation guidelines<sup>13</sup>.

A possible further action at European level would be the identification and sharing of best practice uses in Member States. The European Commission could monitor the uptake of the framework and its implementation, and envisage a workshop one or two years after publication with those who implemented the framework to provide feedback on possible improvement and support measures.

The OECD could also consider gathering information on its implementation at national level, and to identify best practice uses.

For dissemination and implementation purposes, endorsement of the framework by EU, international and national organisations and authorities would contribute to increase the feasibility of use options and impact. The European Commission for example could facilitate endorsements by various EU level stakeholder groups, both related to consumer policy and to education policy. A presentation and endorsement by the OECD Consumer Committee might also be envisaged.

It is already envisaged that organisations involved in the collection and creation of material for consumers' education could map their material according to the structure and competences of the framework. A further dissemination and implementation activity that could be envisaged is the development of a MOOC, an online massive course, to raise awareness of the importance of consumers' digital competences. A possible channel for this could be the EUN Academy of European Schoolnet<sup>14</sup>, which provides courses for teachers in Europe.

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<sup>13</sup> See for example the Guidelines on the adoption of DigComp by Telecentre Europe at <http://www.telecentre-europe.org/resources/guidelines-on-the-adoption-of-digcomp/>

<sup>14</sup> See <http://www.europeanschoolnetacademy.eu/>

## Annex I: Glossary

**Collaborative consumption:** Collaborative consumption is people coordinating the acquisition and distribution of a resource for a fee or other compensation. By including other compensation, the definition also encompasses bartering, trading, and swapping, which involve giving and receiving non-monetary compensation. (Belk 2014)

**Copyright:** A bundle of intangible rights granted by statute to the author or originator of certain literary or artistic productions, whereby, for a limited period, the exclusive privilege is given to that person (or to any party to whom he or she transfers ownership) to make copies of the same for publication and sale.

**Digital content:** any type of content that exists in the form of digital data that are encoded in a machine-readable format, and can be created, viewed, distributed, modified and stored using computers and digital technologies, e.g. the internet. The content can be either free or pay content. Examples of digital content include: web pages and websites, social media, data and databases, digital audio, such as mp3s, and e-books, digital imagery, digital video, video games, computer programmes and software. (from DigComp)

**Digital consumer:** a person who buys, shares, sell goods and services using digital environments.

**Digital environment:** a context, or a "place", that is enabled by technology and digital devices, often transmitted over the internet, or other digital means, e.g. mobile phone network, Records and evidence of an individual's interaction with a digital environment constitute their digital footprint. In DigComp and DigCompConsumers, the term digital environment is used as a backdrop for digital actions without naming a specific technology or tool. (From DigComp)

**Digital identity:** Digital identity is the sum of all digitally available information about an individual. It is becoming increasingly complete and traceable, driven by the exponential growth of available data and the big data capabilities to process it (BCG 2012). For instance, one person could use one email account for personal reasons, and another one for his/her consumption transactions.

**Digital marketplace:** in the context of DigCompConsumers, the digital marketplace is the array of websites, web shops, apps, games, platforms where consumers can sell, share, and buy goods and services.

**Personal data:** "personal data" shall mean any information relating to an identified or identifiable natural person ('Data Subject'); an identifiable person is one who can be identified, directly or indirectly, in particular by reference to an identification number or to one or more factors specific to his physical, physiological, mental, economic, cultural or social identity (EU Data Protection Directive 95/46/EC).

**Peer-to-Peer (P2P):** A Peer-to-Peer, or P2P, refers to a decentralized model of transactions whereby two individuals interact to buy or sell goods and services directly with each other, without intermediation by a third-party, a company or business. The buyer and the seller transact directly with each other.

**Privacy policy:** the term related to the protection of personal data, for example, how a service provider collects, stores, protects, discloses, transfers and uses information (data) about its users, what data are collected, etc.

**Sustainable consumption:** Sustainable consumption is the consumption of goods and services that have minimal impact upon the environment, are socially equitable and economically viable whilst meeting the basic needs of humans, worldwide. Sustainable consumption targets everyone, across all sectors and all nations, from the individual to

governments and multinational conglomerates.  
(<http://www.gdrc.org/sustdev/concepts/22-s-consume.html>)

Sustainable production & consumption "The use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations." United Nations Commission on Sustainable Development (UNCSD), Symposium on Sustainable Consumption, Oslo, 1994.

## Annex II: Participants to the workshops

We thank the participants to the workshop for their valuable contribution to the project.

Workshop Brussels 14-15 December 2015

Name	Organisation
Frank Molcker	ECDL Foundation
Hanna Turetski	The Consumer Protection Board of Estonia
Christophe Bernes	INC Paris
Sissel Annie Husebråten	Ministry of Children, Equality and Social Inclusion, Oslo
Beate Blaschek	Austrian Ministry of Social Affairs
Taina Mäntylä	The Finnish Competition and Consumer Authority
Vera Fricke	Federation of German Consumer Organisations
Anna Fielder	Expert
Anita Forsnäsgrård	Consumer Agency of Sweden
Mattia Tempini	EC DG JUST
Julien Brugerolle	EC DG JUST
Katja Viertio	EC DG JUST
Anita Fokkema	EC DG JUST
Silvia Pella	EC DG JUST
Riina Vuorikari	EC DG JRC
Yves Punie	EC DG JRC
Martin Ulbrich	EC DG CONNECT
FAURE Jean-Pierre	Secreteriat, CES
Emanuele Ciriolo	EC DG JRC
Barbara Brečko	Expert

Workshop Sevilla: 28-29 April 2016

Name	Organisation
Hanna Turetski	The Consumer Protection Board of Estonia
Taina Mäntylä	Finnish Competition and Consumer Authority
Vera Fricke	Federation of German Consumer Organisations
Christophe Bernes	INC France
David Martin	BEUC - European Consumer Organisation
Rieko Tamefuji	OECD
Muriel Santoro	Expertise France
Ingrid Kjørstad	National Institute for Consumer Research (SIFO)
Eva van Reijmersdal	Faculty of Social and Behavioural Sciences University of Amsterdam
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Riina Vuorikari	EC DG JRC
Stephanie Carretero	EC DG JRC
Nuria Rodriguez	EC DG JRC
René Van Bavel	EC DG JRC
Anita Fokkema	EC DG JUST
Barbara Brečko	Expert
Anusca Ferrari	Expert

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